



Saskatchewan
Agriculture
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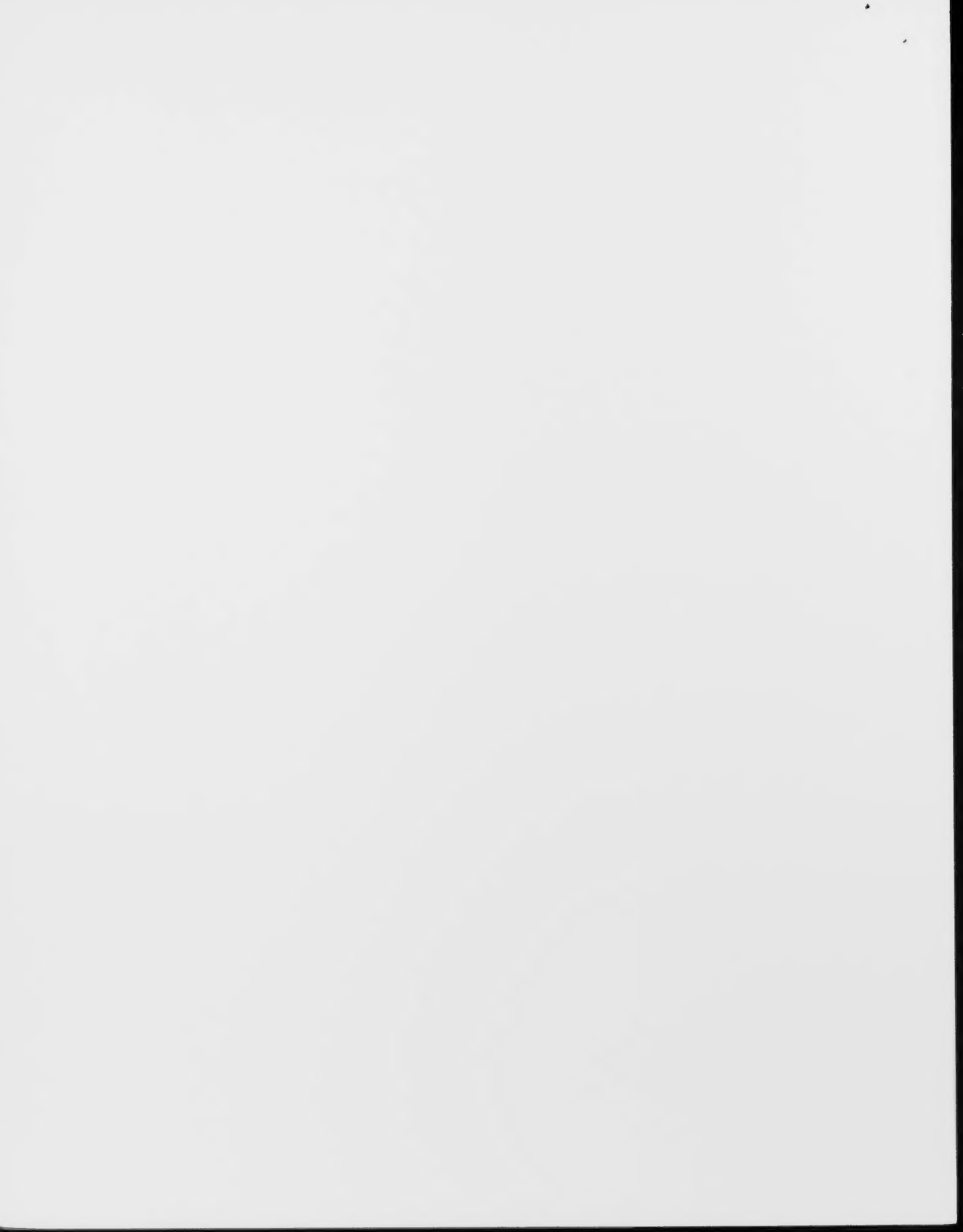
**FUNDING TO SUPPORT BEEF RESEARCH AND
DEVELOPMENT**

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Funded by the Agri-Food Innovation Fund

Prepared by:

Prairie Agricultural Machinery Institute (PAMI)



Research Report

Final Report

FUNDING TO SUPPORT BEEF RESEARCH AND DEVELOPMENT

for:

Agri-food Innovation Fund
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Regina SK S4S 0B1



**Prairie Agricultural
Machinery Institute**

March 31, 2008
Humboldt, Saskatchewan
Project No. 1
Project #95406 FARM

2007-2008 Final Report

FUNDING TO SUPPORT BEEF RESEARCH AND DEVELOPMENT

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Acknowledgement

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1. Summary

1.1 Activities

This was PAMI's third year of operating the Western Beef Development Centre. Staffing and on-the-job training was a core activity. Staff developed several new projects based on each area of science, as well as a new herd purchase plan and an equipment upgrading program to support 2007-08 activities, and to provide for the longer term needs of WBDC and its research partners.

WBDC conducted ongoing literature reviews and networking in the science, policy and producer sectors by attending 16 events and other venues. This consultation led to the conduct of 9 timely field research projects with research partners in the public and private sectors.

WBDC carried a strong technology transfer program, completing a wide range of activities in this area.

1.2 Status:

This 3-year project continues to be active and is nearing completion of its goals. There are no major obstacles observed at this time.

1.3 Observations:

The research community is reacting favourably to the continued presence of this beef research organization. Partnerships are forming continuously and the centre's facilities and expertise are in demand. An excellent example of this demand for partnerships is the request by University of Saskatchewan to conduct a backgrounding trial with high-fat, low-lignin oats, a new variety that is coming to the market for Saskatchewan grain and beef producers. Producers are showing a continuing interest in the activities and information generated by WBDC. When the acquisition of the new herd is completed WBDC will be positioned to fully exploit the use of the facility by clients.

2. Technical Progress Report

2.1 Introduction

The purpose of this project, under AFIF funding was to:

- carry on operations relating to beef research, development, demonstration and technology transfer for the benefit of Saskatchewan's cow/calf producers

This progress report will cover activities toward the above purpose that were conducted during the period from April 1, 2007 to March 31, 2008.

2.2 Governance

The WBDC Strategic Advisory Committee consists of 13 members and met 2 times during the year. The committee consists of producers, researchers, and government personnel. The committee provides guidance to the PAMI Board of Directors as well as PAMI management for the operation of the centre.

2.3 Planning

A breeding plan was developed by an ad-hoc committee of producers, university researchers and WBDC staff to utilize artificial insemination for breeding the new herd cows in 2007.

The PAMI Board of Directors established the following objective for WBDC: "Establish WBDC as the preferred provider of applied beef and forage research in Western Canada". To accomplish that goal the following action plan was developed in October 2007:

Outcomes	Actions	Personnel	Goal	Status
a. Develop a collaborative R&D portfolio	Currently 9 R&D projects, collaborators include U of S, AAFC, PFRA, Ridley, Novartis	Jefferson, Lardner, Taylor	March 08	Ongoing
b. Staff Beef Economist	Dr. Karen Taylor was hired	Jefferson	SEP 07	complete
c. Purchase new cow herd	107 pairs purchased in May 07 67 pairs/heifers purchased to date in 2008	Jefferson	March 09	>50% complete
d. Purchase new equipment	18 items purchased	Widdifield, Jefferson	March 09	>75% complete
e. Upgrade facilities at TRR	Fencing, handling facilities	Widdifield	March 09	>50% complete
f. Extend research results	2 new factsheets on winter feeding systems 30 extension presentations	Lardner, Taylor, Jefferson	March 08	Ongoing
g. Develop Forage Agronomy program	3 proposals submitted	Jefferson	March 08	Proposals declined
h. Develop Pasture rejuvenation	Proposal submitted to BCRC	Jefferson, Hultgreen, Leduc	March 08	Proposal declined
i. Technology Tools	Working with PAMI engineers	Hill, Jefferson	Oct 08	Ongoing

The Strategic Advisory Committee conducted a planning session at its second meeting in March 2008. Key research topics and directions for future research proposals were proposed by industry and government representatives and discussed at length. WBDC will formulate action steps from these discussions and provide the committee with a strategic plan by the November 2008 Strategic Advisory Committee meeting.

WBDC's scientists developed two separate research program-area plans, for:

- Cow/calf forage production systems
- Cow/calf production economics

These plans are necessary to meet the specific requirements of the Strategic Research Program of Saskatchewan's Agriculture Development Fund, who is providing funding for the work of these scientists and two technicians. The research plans were presented to the Strategic Advisory Committee at their meeting of March 19, 2008, and the committee approved a recommendation that they be implemented.

2.4 Research, Development & Demonstration

Literature reviews were an ongoing activity in the production and economics areas, in order to 'harvest the world' for new concepts and practices for consideration here. Although these reviews were not formally compiled, they were used as a basis for developing science plans as well as project plans for the work shown below.

WBDC conducted 13 major research field projects during the year. These are shown in the following table. The projects deal with a wide variety of topics including, forage establishment and performance, winter feeding systems, calving date study, vaccination trials, and manure management. Approximately 10 other funding agencies supported the projects, as shown.

The literature reviews and research work provide the material for WBDC's technology transfer activities, described in following sections.

Project Name	Funding Source	Amount	Objective	Current Status
5006T Tech Tools for Cow/Calf	Sask Ag & Food	\$39,506	Investigate automation of cattle handling processes to minimize labour requirements	technologies are being scoped
96006B Watershed Manageme nt	Sask Agri Enviro Group Planning	\$70,000	Promote best management practices and environmental farm plans to producers	40 EFPs approved
96405B Winter Feed Systems	ADF BDF GHGMF	\$54,050	Evaluation of various winter feeding systems	Data analysis underway
97607 Dry Distillers Grain	ADF	\$29,000	Use of dry distillers grain as a feed supplement	Grazing completed for year 1
96005B Forage- Based Production Systems	ADF/BDF	\$19,601	To determine production and quality of new and existing forages under grazed conditions in the thin black/dark brown soil zones	Data analysis is underway
96907 Strategic Research Program	Sask Ag	\$250,000	Funding of two strategic research programs at WBDC	Programs continue through year
97406B Sulphate Trials	PFRA	\$89,285	Trials to remove high sulphate levels from drinking water	Test facility set up Recording data
97507 Biomass Energy & Fibre Product	ABIP	\$9,346	Prairie production for biomass-energy and fiber byproducts	Project completed
97906B Time of Calving	BDF	\$54,450	Study impact of early calving vs. late calving dates	Calved out first calf crop with good results
98006 Backgroun ding Calves	ADF CMDf	\$69,500	Backgrounding calves with fall grazing of animals	Calves at U of S feedlot
98307 Oat Trials	ADF	\$28,625	Evaluating high fat/low lignan oats for backgrounding calves	Completed March 2008

2.5 General Operations

During the year there were several staffing actions. Mr Jon Nelson, Assistant Farm Manager, was hired in late March 2007. Mr. Jonathon Pearce was hired on a casual basis in April 2007 and then converted to full-time, term position in January 2008 to assist with the large number of projects at Termuende Research Farm. Dr. Karen Taylor was hired in the Beef Agriculture Economist position in September and reported for duty on January 2 2008.

The first year of the plan to purchase a WBDC/PAMI owned purebred beef research herd was conducted with funds (\$750,000) from Saskatchewan Ministry of Agriculture and Agriculture and AgriFood Canada. The plan will see WBDC purchase a herd of its own over a three year period, and systematically retire the current herd, owned by the Horned Cattle Purchases Fund (HCPF) over the same period. One hundred and seven pairs (cows and calves) were purchased in May 2007. A new agreement with HCPF was signed in October 2008 which outlines how the HCPF cows will be sold. Only fifty-six cows from the HCPF-owned herd were sold in December 2007 because it was found that the other 44 were still involved in research trials for the winter. They will be sold in 2008. Eighty pairs and 27 bred heifers were purchased in February and March 2008 to complete the second phase of the new herd purchases.

In conjunction with the SAF announcement to provide funding for herd replacement, additional funds (approximately \$350,000) were provided to upgrade the capital facilities and equipment at the WBDC farm at Lanigan.

2.6 Work plan Changes

There were no major changes to the work plan throughout the year.

3. Administrative Report

3.1 Technology Transfer Events

3.1.1 WBDC field Day – June:

Approximately 120 producers and others attended this one-day event at the Termuende Research Farm on June 22, 2007. Morning sessions featured department officials and market-side industry speakers while the afternoon was devoted to research site and general farm tours, and presentations from WBDC staff and graduate students. Dr. Lardner spoke to use of dry distillers grains (a by-product of ethanol production) in grazing beef cows on low quality forages. Dr. Jefferson presented an analysis of declining hay yields in Saskatchewan.

3.1.2 Farm Tours:

Throughout the year tours were provided to agriculture students, farm groups, government personnel, and foreign delegations.

3.1.3 Cow/calf Management Schools:

Due to a shortage of staff no cow/calf schools were held during the year.

3.1.4 Saskatchewan Beef Symposium:

WBDC, together with seven other organizations, organized and conducted this two-day event, February 8 and 9 2008. Approximately 300 people attended the event to hear topics on marketing, production, and economics. The WBDC is a major sponsor of this event.

3.1.5 Fact Sheets

Two new fact sheets covering results on winter feeding systems, cost of production, and economics were published in 2007.

3.2 Website:

WBDC maintains its website as a means to transfer technology effectively to producers and others. The site contains the latest information and news events, and is experiencing steady traffic from users. The new website was implemented in the fall of 2007.

3.3 Conferences attended:

WBDC scientists and technical staff attended 16 conferences during the year to network

and keep abreast of the latest research and industry developments. Conferences attended are shown below:

- Farm Animal Council of Saskatchewan AGM and Conference
- Saskatchewan Stock Growers Meeting
- Western Nutrition Conference
- American Society of Animal Science
- Canadian Society of Animal Science
- Plant Canada 2007
- Canadian Western Agribition
- Canadian Forum on Forage and Rangelands
- Farming for Feed, Forage and Fuel – Capturing Feedgrain and Forage Opportunity conference
- Manitoba Grazing School
- South-west Forage Association Meeting and tour
- Beef and Forage Seminar
- Manitoba Forage Fed Beef Conference
- Saskatchewan Cattle Feeders Association Annual Conference
- Saskatchewan Beef and Forage Symposium
- Saskatchewan Institute of Agrologists Annual Conference

3.4 Acknowledgements

PAMI/WBDC greatly appreciates funding provided for research operations, and takes every reasonable opportunity to acknowledge this funding, in the following ways:

- Site signage
- Funder logo placement on printed or electronic materials
- Funder acknowledgement in the text of news releases, articles or reports
- Verbal acknowledgement during presentations

3.5 Photos & Materials

An estimated 100 to 200 (digital) photographs were taken during the year, relating to research, demonstration and technology transfer activities. These cannot be included in this report because of size restrictions, but are available for viewing at site.

4. Project Personnel

The following PAMI-WBDC personnel had a role in the project work or operations of WBDC throughout the year.

<u>NAME</u>	<u>ROLE</u>	<u>TIME SPENT*</u>
Dr. Paul Jefferson	VP – Operations	100%
Dr. Bart Lardner	Cow-calf forage Specialist	100%
Dr. Karen Taylor	Beef Economist	25%
George Widdifield	Ranch Supervisor	100%
Jon Nelson	Assistant Ranch Supervisor	100%
Leah Froehlich	Research Technician	100%
Jonathon Pearce	Ranch assistant	100%
Les Hill	Research Project cooperator (PAMI)	5%
Brenda Freistadt	Technology Transfer Coordinator	60%

*Time spent is an estimate of total time spent on WBDC operations or projects in the 2007-2008 fiscal year. AFIF provided no funding for personnel.

5. Expense Statement

An expense statement has been prepared and forwarded separately.

Appendix A – Dr. Jefferson's activities report

Note: the activities and publications of Dr. Lardner and Taylor will be reported in the SRP annual reports.)

May through September

Dr. Jefferson lead the staffing action that resulted in Dr. Karen Taylor joining WBDC as the Beef Research Economist.

April to December

Dr. Jefferson was an organizing committee member and chaired a session at "Capturing Feed Grain & Forage Opportunities Conference 2007 Farming for Feed, Forage and Fuel" which was held on December 11 and 12 2007 at Red Deer Alberta.

April to March

Dr. Jefferson managed the project to purchase purebred Angus cattle and new equipment for WBDC.

May 5

Dr. Jefferson participated in two television interviews with CTV Yorkton, one on "What's new at WBDC?" and the second on "WBDC Field Day".

Dr. Jefferson attended a MAFRI/MCPA/AAFC Collaboration meeting in Brandon. He was assigned to the committee to give advice the new scientist to be hired in MB.

Dr. Jefferson was interviewed by the Western Producer about the new purebred Angus herd purchase by WBDC.

May 22

Dr. Jefferson attended a PhD student comprehensive exam for Biligetu who is working with Dr. Coulman on smooth x meadow bromegrass hybrids.

June 4

Dr. Jefferson met with Mr. Neil Jahnke to negotiate the terms for the sale of the Horned Cattle Purchases Fund owned cow herd currently used by WBDC.

June 18

Dr. Jefferson gave a presentation on Hay yield decline on Saskatchewan farms at the Plant Canada conference in Saskatoon. He gave a similar but less technical version of this presentation to the WBDC Field Day and at the 2008 Beef and Forage Symposium in Saskatoon. A paper on this topic has been accepted for publication by the Canadian Journal of Plant Science in 2008.

Dr. Jefferson prepared, conducted and analyzed a survey of Field Day participants for the Technology Tools project.

July

Dr. Jefferson collaborated in the preparation of a Agricultural Bioproducts Innovation Program (ABIP) proposal to Agriculture and AgriFood Canada. The proposal was declined for funding.

August

Dr. Jefferson wrote a final report for ADF project "Cool- and Warm-Season annual forages for grazing, swath-grazing, and silage harvest systems" in collaboration with AAFC and Saskatchewan Forage Council.

September

Dr. Jefferson assisted with site and treatment preparations for Low Cost Winter Feeding Systems and Supplementing Low Quality Pasture with Dry Distillers Grains projects at Termuende Research Ranch.

November

Dr. Jefferson gave a report on WBDC activities to the Saskatchewan Advisory Council on Forage Crops in Saskatoon. He gave a similar presentation to the WBDC Strategic Advisory Committee at its semi-annual meeting in Regina. He resourced the WBDC display at the Agribition Trade Show. He gave a Termuende Ranch tour to the staff and members of the Parkland Conservation Association from Alberta./

December

Dr. Jefferson chaired the National Forum on Forages and Rangelands at Red Deer Alberta on December 13, 2007.

January

Dr. Jefferson attended the Saskatchewan Cattle Feeders Annual Convention in Saskatoon.

February

Dr. Jefferson attended and presented a report on Hay Yield Decline in Saskatchewan to the 2008 Beef and Forage Symposium in Saskatoon.

